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(54) Title: LABELING REAGENT AND METHODS OF USE

(57) Abstract: The present invention provides compounds which are useful as multifunctional labels in proteomics studies. The labels of the present invention are both lysine specific and increase the overall sequence coverage obtained in polypeptide mapping experiments, by for example, increasing the ionization efficiencies of lysine-terminated tryptic fragments. In certain aspects, the labels of the present invention can be used to measure differential quantitation, as for example, deuterium(s) can easily be introduced during their synthesis. In one aspect, a C-terminal derivatized lysine biases the fragment ion intensities strongly toward C-terminal fragment ions, resulting in a highly simplified tandem mass spectrum. In further aspects, the number of lysine residues can be determined in a polypeptide.



WO 2003/056299 A3

## INTERNATIONAL SEARCH REPORT

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## A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : C07K 2/00

US CL : 530/345

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 530/324, 345, 350; 436/89, 173

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
CAS Online, WEST

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6,271,037 A (CHAIT et al) 07 August 2001 (07.08.2001), see entire document.	1-53
A, E	US 6,489,608 A (SKILLING et al) 03 December, 2002 (03.12.2002), see entire document.	1-53

☐ Further documents are listed in the continuation of Box C.☐ See patent family annex.

## \* Special categories of cited documents:

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- "A" document member of the same patent family

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